Sexual transmission of *Gardnerella vaginalis*

Gardnerella vaginalis (Gv) is isolated frequently in women with bacterial vaginosis (BV), a condition in which anaerobes may also play an important role, and in some asymptomatic women. The sexual transmission of Gv is therefore still questioned by many authors.[1] The isolation rate of Gv in male sexual partners of women infected by Gv reported in the literature has been as high as 90%.[2] However, no accurate control population has been included in these studies.

We conducted a study at our STD Centre between November 1987 and October 1988 to evaluate the isolation rate of Gv in male partners of women infected or not infected by Gv. We selected 55 women having the criteria of BV: (1) maladorous vaginal discharge or positive amine test or vaginal pH above 4, 5 and (2) clue cells on wet mount. All these women had positive cultures for Gv (group I). The control population was 53 women complaining of a vulvovaginitis without signs of BV and with negative cultures for Gv (Group II). There was no difference in age ($p = 0{\cdot}43$), oral contraception ($p = 0{\cdot}86$) or time since last intercourse ($p = 0{\cdot}69$) between women from the two groups. Forty male partners of women from group I and 44 male partners of women from group II had a systematic search for Gv by cultures in the urethra prepuce and urine (first voiding). The two male populations were comparable in age, geographical origin, sexual activity and use of condoms.

We isolated Gv in 14 of 40 (35%) male partners of women infected by Gv, 10 times in the urethra and urine, 3 times in the urethra alone, and once in the urine. We isolated Gv in 5 of 44 (11%) male partners of women not infected by Gv. The difference is significant ($p = 0{\cdot}01$). Most of the men infected by Gv were asymptomatic. One man among 19 infected by Gv had a non-candidal balanoposthitis characterised by erythematous macules with a positive amine test.

In the same study 11 of 13 (85%) men infected by Gv in the urethra were cured after one week with a single, 2 g oral dose of metronidazole. The tolerance of this regimen was excellent.

The results of our study suggest that Gv is sexually transmitted. Systematic treatment of male partners of women with BV seems therefore warranted to prevent reinfection. In a recent study,[3] however, treatment of male partners of women with BV had no effect on the cure rate of BV after treatment. Other studies are needed to clarify further the epidemiology of Gv infections and to assess the benefit from treatment of male partners of infected women.

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Medical audit in the UK

Medical audit in the UK is to be comprehensively established by April 1991,[1] but much that has been written about existing audit schemes is not directly applicable to a predominantly out-patient, high-turnover setting such as exists in a genitourinary medicine clinic. The aims of audit are to improve quality of care, improve the efficiency of the service and to provide continuing medical education to all doctors. Clinical care may be divided into structure, process and outcome; the Donabedian Triad. Of these, outcome is clearly the most important but often the most difficult to measure, so that process may have to be substituted, on the largely untested assumption that a patient who receives optimal investigation and treatment has the best outcome. For audit to be successful, practice must be observed and compared with agreed standards, change must be implemented where necessary and new standards set if appropriate. After an interval the cycle must be repeated to ensure that improvement has been achieved and maintained.

Genitourinary physicians may feel that they have been auditing their practice when providing diagnoses for the form KC60, but this provides little education for most doctors, does not set new standards of care and cannot identify ways of improving efficiency of care. It does, however, provide a comprehensive observation of clinical practice and the KC60 codes may be used to select activities for audit.

At The Middlesex and University College Hospital, London our agreed standards are defined in a clinic guide which defines certain minimum processes to be followed in given clinical presentations. This guide is available to all clinical staff. In our monthly audit meetings we have compared our clinical practice with these recommendations in several different ways. Randomly selected cases may be discussed with reference to particular aspects of clinical care eg. adequacy of clinical notes, appropriate use of diagnostic tests, prescribing practice. An alternative approach is to select a diagnosis and review consecutive cases. If this diagnosis is identified by a KC60 code this may be straightforward especially where diagnosis codes are computerised, but laborious and time consuming if day books must be consulted. If the diagnosis to be considered is not specifically identified by a KC60 code but included in the D3 category then other ways of identifying the patients must be used. At The Middlesex our information system allows recording and re-call of subdiagnoses of the KC60 categories, but other clinics may be able to use the information systems of other departments to provide, for example, positive urine culture results, in order to review management of urinary tract infections.

Alternatively the use of a diagnostic process may be reviewed and indeed this was the earliest form of clinical audit.[2] We have reviewed referrals for pelvic ultrasound examinations and as a result produced guidelines for use of this investigation. Many radiology departments can now produce consultant based lists of requests for specific techniques and, where such informa-

tion systems are being established, future use for clinical audit should be considered. Examples of other diagnostic processes which can be reviewed include: syphilis serology, cervical cytology and chest radiography.

Criterion Audit[3] allows large numbers of notes to be reviewed in a limited time and is suitable for many genitourinary diagnoses. The notes of patients sharing a common diagnosis or process are reviewed and certain pre-determined criteria of care recorded as absent or present. This allows a quantitative assessment of standards of care which may be compared over time.

For many clinics successful audit will require additional information systems and/or extra clerical time to identify and locate patients notes. Our experience at The Middlesex has already highlighted advantages of our information system but modifications to systems in other departments will allow wider ranging audit.

Smaller clinics would benefit from combined audit meetings with other departments and all clinics may wish occasionally to share a meeting with members of a clinically related speciality, for example with gynaecologists, urologists.

Evaluating audit is difficult but we already believe that our efforts have begun to improve the efficiency of our service and have undoubtedly provided medical education. Sharing experience of audit and ideas between clinics may further these aims.

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MATTERS ARISING

Eminent Venerologists

J D Oriel mentions in his excellent article about Albert Neisser,[1] the inoculation work on orang utang in Pengansaan, Java in 1906. I own the report of this work[2] and thought it may be interesting for readers of *Genitourinary Medicine* to see photographs of not only Neisser as shown in Oriel's article, but of Halberstädter, Bruck, Kaiser and Von Prowazek and some of their subjects as well.

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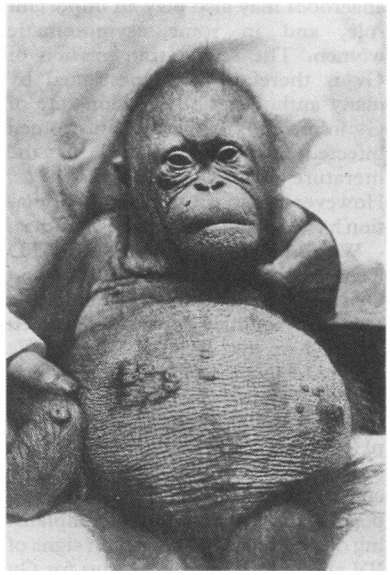
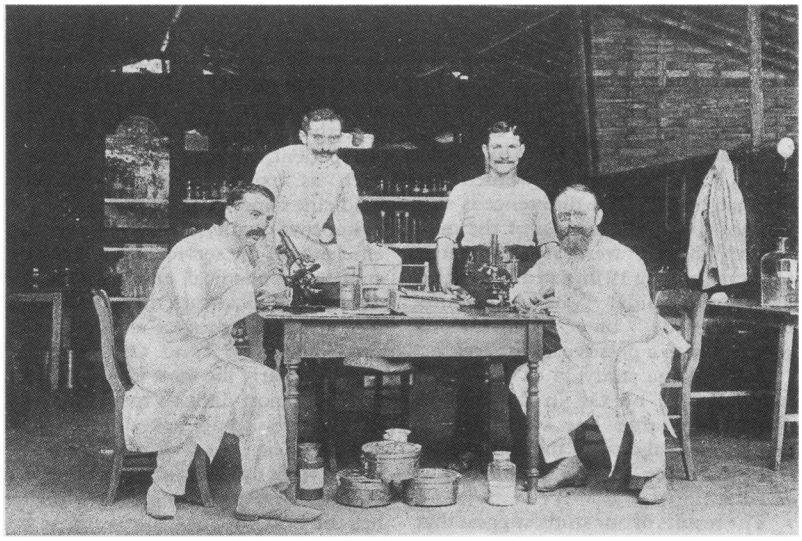


Inoculations in orang utang.



At the laboratory: Prof Neisser, Dr Bruck, Dr Kaiser, Attendant Karl Leschner.